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ABSTRACT

This collection of abstracts is part of a continuing series providing information on recent doctoral dissertations. The 17 titles deal with a variety of topics, including the following: (1) the effects of metacognitive comprehension monitoring strategies on fourth grade students' reading comprehension and recall performance; (2) elementary school readers' strategy use in reconstructing textual macrostructure; (3) the impact of prior knowledge and textual information ordering on recall of unfamiliar information; (4) a hierarchy among three reading comprehension subskills; (5) reading comprehension as a function of topic interest, sex, and reading achievement level; (6) using cognitive learning strategies to improve reading comprehension; (7) the effects of context on sixth grade students' ability to interpret metaphors and similes; (8) percept and imaginal representation of words as related to the reading process; (9) the impact of metacognitive processing on immediate and delayed memory of extended discourse; and (10) the effect of text organization on memory for verbal items. (MM)

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# Reading, Comprehension, and Memory Processes:

Abstracts of Doctoral Dissertations Published in Dissertation Abstracts International, July through December 1983 (Vol. 44 Nos. 1 through 6).

Compiled by the Staff
of the

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Abstracts of the following dissertations are included in this collection:

Babbs, Patricia Joan
THE EFFECTS OF INSTRUCTION IN THE USE OF A METACOGNITIVE COMPREHENSION MONITORING STRATEGY UPON FOURTH GRADERS' READING COMPREHENSION AND RECALL PERFORMANCE

Barton, Betty Louise
PROBLEM SOLVING IN TEXT COMPREHENSION: A STUDY OF ELEMENTARY READERS' STRATEGY USE IN RECONSTRUCTING THE MACRO-STRUCTURE

Feist, Joyce Annette
APPLICATION OF PIAGET-DEFINED REASONING OPERATIONS IN CONCRETE AND READING TASKS BY SECOND, FOURTH, AND SIXTH GRADE GOOD AND POOR COMPREHENDERS

Grist, Simon Mark
THE EFFECTS OF DISCOURSE SEGMENTS ON COMPREHENSION AND READING RATE OF EIGHTH-GRADE STUDENTS

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EFFECT OF TEXT ORGANIZATION ON MEMORY FOR VERBAL ITEMS

## THE EFFECTS OF INSTRUCTION IN THE USE OF A METACOGNITIVE COMPREHENSION MONITORING STRATEGY UPON FOURTH GRADERS' READING COMPREHENSION AND RECALL PERFORMANCE

Order No. DA8323950

BABBS, PATRICIA JOAN, PH.D. *Purdue University*, 1983. 347pp. Major Professors: Alden J. Moe, Pose Lamb

The purpose of the study was to evaluate a program designed to develop fourth graders' knowledge about the reading process and to teach the use of a comprehension monitoring strategy. It was hypothesized that this instruction in metacognitive aspects of reading would result in improved reading comprehension and recall performance.

Each of the 47 subjects of high average to low reading ability participated in fifteen, 22 minute small group sessions conducted by the researcher. The control subjects read in their science and social studies textbooks for the purpose of answering end-of-section questions. The experimental subjects learned to plan a reading task by doing the following: remind themselves that reading is a thinking process, determine a goal, evaluate the difficulty of the text, and determine strategies for reaching the goal and checking on goal attainment. These subjects then learned to use individual sets of comprehension monitoring cards. The cards prompted the students to evaluate their comprehension at the sentence, paragraph, and page levels and to implement remedial strategies when a comprehension failure was noted. During the final two sessions the use of the cards was phased out.

Oral recalls, reading times, and interview questions were used to evaluate the instruction. When prompted by the cards to use the monitoring strategy, the experimental subjects voluntarily took more time to read/study the recall passage (11.5 min. vs. 5.3 min. for controls), recalled a significantly greater number of idea units (12 ideas vs. 5.5 ideas for the controls), and reported the usage of a greater number of reading strategies. However, when not in possession of the cards, the experimental subjects failed to independently use the monitoring strategy; their performance during a second recall procedure was not different from the controls'. Interview responses indicate that these students, particularly the control subjects, possess a low level of knowledge about effective reading strategies and show an even lower level of unprompted strategy usage. The use of tangible prompts, such as the monitoring cards, appears to be an effective way to induce students to be strategic readers.

## PROBLEM SOLVING IN TEXT COMPREHENSION: A STUDY OF ELEMENTARY READERS' STRATEGY USE IN RECONSTRUCTING THE MACRO-STRUCTURE

Order No. DA8317984

BARTON, BETTY LOUISE, ED.D. *University of Kansas*, 1983. 193pp.

The purpose of this study was to identify the reasoning problem solving strategies used in text comprehension by highly proficient and less proficient readers, and to relate each group's strategy use to reader proficiency and the presence or absence of a goal, as they demonstrated strategy use in reconstructing the text macro-structure and the knowledge of certain cohesive words. Protocol analysis, a means of directly investigating the verbalizations of what the reader is thinking while solving a problem, was used to identify the strategies.

The sample included 32 sixth graders from a midwestern suburban elementary school: sixteen highly proficient and sixteen less proficient readers as determined by placement in the 90th percentile or above, and the 50th to 70th percentiles respectively on a reading achievement test.

A comprehension task was designed to provide protocol data for strategy identification. The instrument involved: (1) A 1000 word text from a fifth grade social studies book; (2) eight summary sentences representing the text macro-structure to be reordered; (3) sample audio tapes to familiarize the subjects with verbalizing their thought processes, and two sets of directions for reading the passage: *goal present*, which defined an explicit purpose for reading, and *goal absent*, which lacked that purpose. The task was individually administered. Results from the protocols identified a Reasoning Strategy Taxonomy. Three major strategy categories emerged: Macro, Micro, and Expansion.

It was concluded from the data analysis that: (1) Both reader groups used the same strategies; however, the highly proficient readers used more Macro strategies in the *goal present* condition at the .01 level. (2) Both reader groups were equally successful in reordering the Macro-Structure, but used different patterns of strategies. (3) Highly proficient readers were able to significantly use Macro strategies and connectives in a way the less proficient did not. (4) Less proficient readers focused on word and sentence level strategies (Micro) coupled with Expansion strategies in the reordering task. This pattern was significant in the *goal absent* condition at the .01 level.

## APPLICATION OF PIAGET-DEFINED REASONING OPERATIONS IN CONCRETE AND READING TASKS BY SECOND, FOURTH, AND SIXTH GRADE GOOD AND POOR COMPREHENDERS

Order No. DA8318745

FEIST, JOYCE ANNETTE, ED.D. *West Virginia University*, 1983. 318pp.

This research project investigated whether differences existed in second, fourth, and sixth graders' performances on concrete tasks involving conservation and classification reasoning operations and reading tasks involving similar reasoning operations. There were three purposes: (1) investigating the developmental trend in ability to succeed on concrete conservation and classification tasks, (2) comparing performances of good and poor on concrete conservation and classification tasks and on logically similar reading tasks; and (3) investigating the possible existence of a developmental trend in reading comprehension.

This study involved 72 second, fourth, and sixth graders who were average in age, intellectual ability, and word recognition ability, but who differed in ability to comprehend written text. They were selected from three public schools in one West Virginia county. Twelve good and twelve poor comprehenders at each grade level completed three concrete conservation and six concrete classification tasks. They also read two stories involving the reasoning operations of conservation and two stories involving the reasoning operations of classification. Answers were recorded verbatim and scored according to criteria established by Piaget. Univariate and multivariate analyses of variance were utilized to evaluate the effects of grade (2,4,6) and comprehension ability (good, poor) on success in performing concrete and reading tasks.

Three conclusions were drawn. First, a developmental trend exists both in ability to perform concrete conservation and classification tasks and in ability to perform the logically similar reading tasks. This developmental trend is more prominent in the reading tasks than in the concrete tasks. Second, good and poor comprehenders are differentiated by their ability to perform both the concrete and the reading tasks. These differences, however, are more conspicuous in the reading tasks. Third, a delay exists in ability to apply the reasoning operations used successfully in concrete conservation and classification tasks to situations in which these reasoning operations must be applied to a textual stimulus.

## THE EFFECTS OF DISCOURSE SEGMENTING ON COMPREHENSION AND READING RATE OF EIGHTH-GRADE STUDENTS

Order No. DA8317533

GRIST, SIMON MARK, ED.D. *Rutgers University The State U. of New Jersey (New Brunswick)*, 1983. 120pp. Chairperson: Edward Fry

The study investigates the effects on reading rate and text comprehension of ending lines of discourse according to the meaning, syntax, and grammar of each sentence, rather than according to typographic constraints. Previous research indicated that discourse segmenting may be advantageous to both rate and comprehension for certain kinds of text, and for readers whose skills are poor.

A narrative and a technical text of similar readability level and structure were segmented into chunks, propositions, and phrases, according to different criteria for the derivation of each format. For each text, a ten-item, multiple-choice test was designed; five items assessed detail recall, and five assessed inferential comprehension.

The sample consisted of 112 eighth graders, and it was balanced in terms of sex and reading ability. Each subject read each passage in one of the four formats and answered the questions.

The dependent variables in the study consisted of the total comprehension score, the literal questions, the inferential questions, and the number of words read in one minute. Data were analyzed separately for each passage in the form of a 2 x 4 x 2 matrix using an ANOVA procedure to test for significant main effects of text format, reader ability, and sex. Results were obtained for the sample as a whole, and for the good and poor readers.

No format resulted in a significant increase in total or inferential comprehension scores for either passage for any of the subjects. The chunk format led to significantly higher scores for all subjects reading the technical text and resulted in significantly faster reading rates for all subjects reading the narrative text.

It was concluded that segmented discourse may be beneficial to poor readers and that segmenting is more appropriate for text that is not well organized. The size of each segment is less important a factor than that each segment should comprise a meaningful unit of text. Discourse segmenting may also be more appropriate when the comprehension task is recalling details rather than inferential understanding.

## A STUDY OF READING COMPREHENSION MONITORING USING READER SELECTED MISCUES WITH SELECTED TENTH, ELEVENTH, AND TWELFTH GRADE STUDENTS

Order No. DA8310398

HOGE, GLENDA SHARON, PH.D. *University of Missouri - Columbia*, 1982. 150pp. Supervisor: Dr. Dorothy Watson

This study explores the role of metacognition in the development of reading ability. The methodology employs a theoretically based instructional strategy, reader selected miscues (RSM), an instructional technique directing readers toward independent monitoring of reading comprehension. The RSM procedure is based on the assumption that comprehension is directed by a reader's schema (network of cognitive assumptions) for any passage. Therefore, the reader is able to identify those elements of a text that interrupt comprehension.

In this investigation classroom instruction was based on student reports of items in text that interfered with the reading process. Eight high school students assigned to remedial reading classes were subjects for the study. The students participated in an interview and an oral reading session that preceded and followed an eight week instructional period. Data analysis was carried out in three phases. RSMs collected over the eight week instructional period were analyzed according to the linguistic level of focus. Responses from the interviews were categorized according to four variables: strategy, person, task, and instruction. The oral reading was analyzed through miscue analysis, and oral reading strategies were compared to strategy utilization statements made in the interviews.

Initial student reports of interruptions in comprehension, or RSMs, involved problems at the word level. As instruction continued and reading strategy lessons were presented to help students deal with word level problems, the number of word level RSMs decreased dramatically. At the same time, RSMs beyond the word level increased. The data revealed a marked change from comprehension monitoring at the word level toward monitoring beyond the word level, a more complex cognitive process. Interview data revealed a change from phonics or skills models of reading and reading instruction to whole language models after the instructional period. Oral reading behaviors supported the interview data.

Measures of comprehension indicated a marked improvement in students' abilities to handle text. The results of this study demonstrate the utility of the RSM procedure as the basis for classroom instruction.

## THE EFFECTS OF PRIOR KNOWLEDGE AND PLACEMENT ORDER OF INFORMATION IN TEXT ON RECALL OF UNFAMILIAR INFORMATION

Order No. DA8318908

KAPINUS, BARBARA ANN, PH.D. *University of Maryland*, 1982. 160pp. Supervisor: Beth Davey

This study investigates the effects of prior knowledge and the placement order of unfamiliar information in text on the immediate and delayed recall of unfamiliar information by average or above average readers.

Subjects for the study were 190 eighth-grade students from two middle schools in suburban Maryland. Teacher judgement of students as average to above-average readers and parental permission were the major determinants of sample inclusion.

The topic of computers was chosen as the information area for this investigation. Subjects' naturally occurring prior knowledge was pre-assessed using two measures: true-false questions and open-ended questions. Induced prior knowledge was provided to subjects through a lecture on computers. The subjects not receiving induced prior knowledge received a lecture on a topic unrelated to computers.

Subjects were randomly assigned to read a passage with one of two information orders: Unfamiliar/Familiar or Familiar/Unfamiliar. Types of information, familiar and unfamiliar, had been determined through pre-pilot studies. After reading the passage, subjects were administered eight open-ended questions on computers and 10 multiple-choice wh- questions on the unfamiliar information in the passage. One week later subjects were administered the open-ended questions on computers again and 10 additional multiple-choice questions to assess delayed recall of unfamiliar information.

Data were analyzed using multivariate tests and Johnson-Neyman tests where appropriate. Results indicated no significant effects for prior knowledge or placement order of information in the passage on immediate recall tasks or delayed multiple-choice tasks.

The analyses of the delayed open-ended questions for unfamiliar information resulted in significant findings: (1) For subjects with high naturally occurring prior knowledge, who received further induced prior knowledge, passages beginning with unfamiliar information resulted in greater recall than did passages beginning with familiar information. (2) For subjects with high naturally occurring prior knowledge, induced prior knowledge resulted in greater recall than did no induced prior knowledge when they read passages beginning with unfamiliar information.

Furthermore, significant correlations were found between prior knowledge pre-assessments and tests of recall of information from text.

Implications are drawn for further research and instructional practice.

## AN INVESTIGATION OF A HIERARCHY AMONG THREE READING COMPREHENSION SUBSKILLS

Order No. DA8315814

LAGOMARSINO, LINDA ANNE, PH.D. *Arizona State University*, 1983. 122pp.

This study was designed to investigate the level of difficulty and possible hierarchical ordering of three reading comprehension subskills, i.e., specific facts, inferences, and main ideas. Fourth and fifth graders read 15 passages of two paragraphs each and answered multiple-choice questions assessing recognition of (a) explicitly stated information, (b) inferences, and (c) main ideas. Reading difficulty ranged from mid-third to mid-fifth grade levels. Passages and questions were field tested and results of item analyses and indices of prior knowledge and learning were used to modify reading materials.

I hypothesized the hierarchical ordering of subskills would be: (a) questions of facts would be least difficult, (b) inferences would occupy the intermediate position, and (c) main idea questions the most difficult. Additional hypotheses were: (a) a main effect for grade, (b) no main effect for gender, and (c) no interactions with gender. MANOVA, order analysis, factor analysis, and reliability of difference scores were computed.

Recognition of specific facts resulted in a better performance than recognition of either inferences or main ideas. There was no significant difference between inferences and main ideas; however, there was a significant passage by question type interaction. Examination of individual passages and questions revealed differential performance by grade level. It was speculated that children's prior knowledge and the presence of relatively explicit topic sentences contributed to these differences. Reliability of difference indices indicated some support for uniqueness of the specific facts and main ideas subskills.

## READING COMPREHENSION AS A FUNCTION OF TOPIC INTEREST, SEX, AND READING ACHIEVEMENT LEVEL

Order No. DA8320899

LAMEY, DARLENE ANN, D.ED. *The Pennsylvania State University*, 1983. 165pp. Adviser: Eunice N. Askov

The author attempted to replicate previous findings that subjects score higher on measures of reading comprehension when they are reading high-interest material then when they are reading low-interest material. Sex and achievement level differences in the relationship were also investigated. The prior knowledge explanation for the interest-comprehension relationship was investigated by means of a subject self-report of amount of prior knowledge about high- and low-interest topics.

Subjects were 96 sixth grade students. Subjects first rated 22 topics for interest. Three high- and three low-interest topics were selected for each subject, and one week after the interest rating, subjects read paragraphs about their high- and low-interest topics. Comprehension was assessed by means of the cloze technique.

Results showed that high-interest comprehension scores were significantly greater than low-interest comprehension scores. No sex or achievement level differences were found. Subjects reported greater prior knowledge about high-interest topics than about low-interest topics.

Conclusions were that high- versus low-interest comprehension differences were consistent with previous findings. Also, although no significant interactions existed in the data, boys generally showed a somewhat stronger effect in this relationship than did girls, and subjects from the lower two achievement levels of the study showed a somewhat stronger effect in the relationship than subjects from the upper two achievement levels. In addition, high-interest prior knowledge scores were significantly higher than low-interest prior knowledge scores, and since this finding accompanied the finding that high-interest comprehension scores were higher than low-interest comprehension scores, some support was given to the prior knowledge explanation for the interest-comprehension relationship.

## TEACHING CHILDREN TO QUESTION WHAT THEY READ: AN ATTEMPT TO IMPROVE READING COMPREHENSION THROUGH TRAINING IN A COGNITIVE LEARNING STRATEGY

Order No. DA8319638

MACDONALD, JOHN DAVID, PH.D. *The University of Texas at Austin*, 1983. 232pp. Supervisors: Beeman Phillips, Claire E. Weinstein

It has been recommended by a number of authors that teachers have their students ask themselves questions about what they are reading as a means of improving reading comprehension and recall. Previous research, however, suggests that this strategy is most effective for students who are able to generate good questions (questions which are targeted on important information). This study was an attempt to train junior-high-school students who were average or below average in reading comprehension to generate good questions and to use this strategy while reading long texts (texts which are greater than 300 words in length).

Trained subjects were compared with an equal number of subjects who received a control training program and were also told to ask questions while reading. Results of path analyses indicated that the experimental training had significant facilitative effects on the quality of questions generated by the subjects, but only for those students in the upper two-thirds of the range of pretest free recall ($F[3,48] = 6.14$, $p < .01$) and for those subjects who were above the median on pretest vocabulary skills ($F[3,48] = 3.61$, $p < .05$). Treatment did have a significant effect on posttest free recall, both because it improved the quality of questions subjects generated, and also it improved free recall independently of its effects on question quality. This second direct effect of treatment on free recall was only facilitative for students who had attained pretest scores above the median on reading vocabulary skills. The nature of this interaction was such that subjects who were below average in vocabulary skills actually declined in free recall despite improvements in the quality of questions they generated. The results are discussed in terms of their implications for reading teachers using this strategy, as well as the implications for theoretic conceptualizations of cognitive learning strategies.

## STRUCTURE OF CONTENT AND ITS EFFECT ON READING COMPREHENSION OF SELECTED PASSAGES UNDER RAUDING AND STUDYING CONDITIONS

Order No. DA8315206

PEMBERTON, DELORAS KNEPPER, PH.D. *University of Missouri - Kansas City*, 1983. 176pp.

Two theoretical perspectives, Prose Analysis and Rauding Theory, were chosen for the purpose of examining their ability to account for the influence of a single factor, structure of content, upon reading comprehension. Prose Analysis studies, using linguistic analyses to identify the overall semantic organization of ideas in expository prose, i.e., its content structure, report that ideas which are high in the structure have greater likelihood of being recalled than ideas which are low in the content structure. In contrast, Rauding Theory states that all ideas are given equal attention by the reader in typical reading situations and the height of ideas in the content structure only affects study-type reading. In order to determine whether height of ideas in the content structure was an important factor in both typical reading and study-type situations, participants were included to read normally (raud) or to read carefully one of four texts previously used by Meyer in which a target paragraph was embedded at both high and low levels of the content structure. Two sets of passages of Grade 17 + difficulty level and approximately 575 words were used. Participants were 72 graduate students enrolled in education classes of an urban university. The dependent variable used to measure comprehension was written free recall of the idea units from the target paragraphs. Results indicated support for the effect of height of ideas in the content structure upon comprehension for both raud and study conditions. In spite of the presumed recency effect under the raud condition which competed with the effect of height (resulting from the fact that 88% of the rauders did not finish reading the passages), all groups recalled idea units better when they were embedded at the high level than when they were placed at the low level. Height of content in the structure was statistically significant at the .0001 level. It was concluded that Prose Analysis adequately accounted for the influence of height of ideas in the content structure upon reading comprehension of the passages used in this study.

## EFFECT OF A TRANSFORMATIONAL IMAGERY STRATEGY ON POOR AND GOOD COMPREHENDERS' RECALL OF CONCRETE PROSE

Order No. DA8322544

PETERS, ELLEN EARNSHAW, PH.D. *Arizona State University*, 1983. 163pp.

The purpose of this investigation was to evaluate the efficacy of a mnemonic imagery strategy on an immediate and one-week delayed test by readers who comprehend text differently. Eighth-grade students were classified as poor and good comprehenders on the basis of their vocabulary and comprehension sub-test scores. Forty students were assigned randomly to one of two instructional conditions: transformational imagery and control. Students in the transformational imagery condition were taught a two-step strategy, an extension of the keyword method, while students in the control condition were instructed to use their own best strategy to recall factual information. Performance was measured with respect to students' recall of two types of passage information--central and incidental--on both immediate and one-week delayed test. The results were straightforward. In both reading groups, students who were availed of the transformational imagery condition recalled more central information items on the immediate test of recall than students in the control condition. Moreover, these results were maintained on the delayed test. On both tests of incidental information, no significant treatment effects were observed for either reading group; nor were interactions between instructional condition and comprehension level observed. In conclusion, transformational imagery can facilitate recall of factual information when applied to a reading task by both poor and good comprehenders.

## THE EFFECTS OF METACOGNITIVE PROCESSING ON IMMEDIATE AND DELAYED MEMORY OF EXTENDED DISCOURSE

Order No. DA8319456

SCHAEFER, CHRISTINE CAVERHILL, PH.D. *University of Washington*, 1983. 215pp. Chairperson: Professor Timothy C. Standal

The purpose of this study was to compare the reading performance of seventh-grade students trained in metacognitive processing with others given explicit, passage-dependent instruction before reading. The study was influenced by the interactive model of reading, specifically, the assumed ability of readers to consciously switch levels between data- and concept-driven processes. This requires metacognitive awareness and the ability to select and maintain appropriate schemata.

A 3 x 3 x 2 x 2 design examined ability (above average, average, below average), treatment (Context, Process, Control), condition (immediate and delayed recall), and sex, with two major dependent variables, length and scores on written recall protocols.

Subjects read non-fiction passages and recalled them immediately and one week later. The Context-Experimental Group received instruction in polysemous vocabulary items from each passage before reading. The Process-Experimental Group received metacognitive training, using test passages that they had already read and recalled. The Control Group read unrelated fiction.

Significant main effects were found for sex, ability, and treatment. In general, the Context Group scored significantly higher than the Control Group. There were no significant interactions. Although the Process Group did not show the superiority that had been predicted, this group scored significantly higher than the Control Group on two measures, seldom scoring significantly lower than the Context Group. Only the Process Group showed significant gain across recall trials. Because their instruction was general and not test-passage specific, these results show inchoate support for the metacognitive training procedures as well as for the more traditional procedures of the Context Group.

## THE EFFECTS OF CONTEXT ON SIXTH GRADERS' ABILITY TO INTERPRET METAPHORS AND SIMILES

Order No. DA8320134

RICKELMAN, ROBERT JOSEPH, PH.D. *University of Georgia*, 1983. 116pp. Director: John E. Readence

This study investigated the differential effects of context on the ability to interpret metaphors and similes for sixth-grade students reading at or above grade level. The relationship between knowledge of the salient attribute and the ability to interpret metaphors and similes was also explored.

Ninety-four sixth grade students were tested in intact, heterogeneously grouped classes during regular school hours. Each student was given a two part protocol. Part I consisted of twelve paragraphs, each containing a simile or a metaphor. The twelve paragraphs, included four of each of the following types of context: (1) irrelevant, where the passage gave no cues related to the salient attribute necessary to interpret the figurative statement, (2) general, where the salient attribute was implied in the context, and (3) specific, where the salient attribute was directly stated in the text. After reading each paragraph, the students wrote interpretations for the metaphor or simile. Part II consisted of the twelve vehicle terms of the statements. The students listed attributes for each of these terms.

Data from the interpretation task were analyzed using an analysis of variance. Results indicated that there are no significant differences between the frequencies of interpretations of metaphors and similes. Significant differences were found for context conditions. Scheffé post-hoc analyses indicated that statements in the general and specific conditions were interpreted more often ($p < .05$) than statements in the irrelevant condition. The data from the attribute listing task were analyzed using correlated *t*-tests. Results indicated that there is a greater chance for similes and metaphors to be correctly interpreted when the salient attribute is listed. When the effects of context are examined in light of this specific knowledge of word meanings, the implications become less clear. Recommendations for instruction and for further research were drawn based on the results.

## PERCEPT AND IMAGINAL REPRESENTATION OF WORDS AS RELATED TO THE READING PROCESS

Order No. DA8315728

SWEET, MARCELLA HARRIS, PH.D. *Oklahoma State University*, 1982. 184pp.

*Scope of Study*. The purpose of this study was to investigate the effects of percept and imaginal representation of words on processing and recall of words. A total of 48 nine year old children and 48 fourteen year olds of two reading ability levels (high and low) were randomly assigned to one of three modes of representation (percept, mixed or image). Subjects were given training for processing words by height of letter and engaged in a series of activities for two consecutively presented word lists (high frequency words and pseudowords). There were three dependent variables: response time for correctly processing the words, number of words correctly recalled and number of words correctly spelled.

*Findings and Conclusions*. The major findings were as follows: Both age groups took longer to correctly process both types of words in the imaginal mode than percept mode. Fourteen year olds took less time to correctly process words in the imaginal mode than nine year olds. Low ability students took longer to process pseudowords in the imaginal mode than high ability students. Both age levels recalled more words following the imaginal mode than the percept mode. There was no difference in the number of words correctly spelled as a function of the mode of representation. Results indicated that there is a developmental trend in children's ability to process words by shape, i.e., fourteen year olds are more adept at such skills. Results also indicated that processing words on the basis of shape as a visual image can enhance recall. It was concluded that imaginal representation helps organize salient aspects of words which, in turn, increases memory for the words.

## THE RELATION AMONG COGNITIVE ABILITY, TAKING AN ASSIGNED PERSPECTIVE, AND TYPE OF STORY IDEA REMEMBERED

Order No. DA8313956

WALKER, GAIL LORNA, PH.D. *The Catholic University of America*, 1983. 123pp.

*Problem*. Research has shown that level of operational thought dramatically affects the amount and organization of recall of simple word lists and sets of objects. However, research has not identified which cognitive developmental variables influence children's ability to take a perspective when listening to a story. Research conducted relative to text organization suggests story structure influences type and amount of recall. Research needs to address how cognitive ability influences comprehension of story structure. The purpose of this study was to determine the extent to which ability to take a perspective when comprehending a story is dependent on the level of cognitive development (operational thought) of the child. This study also attempted to ascertain whether or not comprehension and recall of upper-level with corresponding lower-level structures of prose is dependent on level of cognitive development.

*Method*. Ninety first grade subjects were chosen and randomly assigned to two groups, each receiving a different perspective. They were given a test of cognitive ability and then listened to a story with two relevant themes (i.e., items of interest to a burglar or items of interest to safety experts). Prior to listening, half the children were told to pretend they were burglars, while the remainder were told to be safety experts. After listening, they provided free recall, cued recall, and recall from the alternative or shifted perspective.

*Results*. The results indicated that cognitive ability affected encoding and retrieval processes, which both appear to influence the type and amount of children's recall; specifically, cognitive ability to take a perspective. Cognitive ability also affected the ability of children to encode and retrieve lower-level structural idea units with their corresponding upper-level structures. Finally, cognitive ability did not differentially affect children's ability to shift perspectives.

*Conclusions*. This study links text processing ability to cognitive developmental aspects of level of operational thought. It has educational implications in development of textual material by teachers, curriculum designers, and textbook publishers. For example, if the author's perspective is too advanced or implicit and includes too many details, children may not be cognitively capable of comprehending the text.

## THE INFLUENCE OF THE PRESENTATION MODE ON PRESCHOOL CHILDREN'S STORY COMPREHENSION AND RECALL

Order No. DA8319951

YANG, YOUNG-JA LEE, ED.D. *Boston University School of Education*, 1983. 171pp. Major Professor: Judith A. Schickedanz

This study investigated the effects of eight presentation modes on preschool children's story recall and comprehension. Three variables were manipulated: (A) oral versus audio, (B) books versus slides, and (C) pictures versus nonpictures. Eight presentation mode groups were formed. (1) *Picture-Word-Book-Oral* group; (2) *Picture-Word-Book-Audio* group; (3) *Word-Book-Oral* group; (4) *Word-Book-Audio* group; (5) *Picture-Word-Slides-Oral* group; (6) *Picture-Word-Slides-Audio* group; (7) *Word-Slides-Oral* group; (8) *Word-Slides-Audio* group.

Eighty children, attending day care centers in the Greater Boston area, participated in this study. The subjects were 30 middle-class boys and 50 middle-class girls, ranging in age from 36 months to 69 months. The story used in this experiment was the multi-episode story, *Happy Birthday, Moon*, by Frank Asch (1982).

Ten children were randomly assigned to each presentation mode group. Children were presented the story and asked to retell it (recall) and answer 12 comprehension questions. A three-way factorial analysis of variance was used to analyze the data.

The findings on recall were as follows: (1) The book modes were significantly more effective than the slides modes. (2) The picture-word modes were significantly more effective than the words only modes. (3) The books were significantly more effective than the slides only when the books contained pictures. (4) The category type of *Setting* was recalled significantly better than any other category types, and *Attempt* was recalled better than *Initiating Event* and *Internal Response*. (5) *Action*, *Natural Occurrence*, and *End State* were recalled better than any other types of information. (6) There were no significant differences between oral and audio modes.

The findings on comprehension were as follows: (1) The picture-word modes were significantly more effective than word only modes. (2) Oral presentation was more effective than audio presentation for younger subjects (from 36 to 53 months) but not for the older ones (from 54 to 69 months). (3) Older children comprehended the story significantly better than younger children. (4) There were no overall main effects for oral versus audio modes or for books versus slides.

No evidence was found to show that children ignored the verbal information in the presence of additional visual information.

## EFFECT OF TEXT ORGANIZATION ON MEMORY FOR VERBAL ITEMS

Order No. DA8311168

YELINEK, EDWARD JOSEPH, PH.D. *The Catholic University of America*, 1983. 144pp.

*Introduction*. Recent research in verbal learning suggests that the more information an individual knows about a topic, the longer it will take to retrieve a specific fact about that topic (Anderson, 1976; Lewis & Anderson, 1976). Other researchers (Smith, Adams, & Schorr, 1978; Moeser, 1979) propose that this interference effect can be overcome if *integration* of the facts and the topic occur. One area of research which demonstrates clearly a thematic effect of integration is memory for natural prose (Walker & Meyer, 1980). The current experiment examined whether the interference effect proposed by Anderson operates within natural prose.

*Methodology: Design*. The design was a 2 x 2 x 2 factorial with all factors within-subjects. There were three independent variables with two levels each: (a) fact location in the text's semantic hierarchy (high, low) (b) number of facts associated with a concept in the hierarchy (few, many), (c) priming of the concept (primed, not primed). The dependent variable was mean retrieval time for correct responses.

*Subjects*. Forty subjects participated. They were undergraduates in psychology from a small women's college in Pennsylvania.

*Materials and Instruments*. Two paragraphs were used. They were analyzed by Meyer (1975) onto a graph structure detailing superordinate and subordinate facts. Facts were chosen from high (levels 1-5) or low (levels 9-15) in the hierarchy. Half of the facts had few other associates (1-3) to the superordinate concept and the remainder had many other associated facts (5 or more). These target facts were sentences which were used for recognition. Each target sentence was projected by a slide projector. Retrieval time was assessed by a milli-second timer activated by a light sensitive cell mounted on a white screen. The subject stopped the timer by pressing either a YES or a NO switch when making a decision.

*Procedure*. Subjects read a paragraph repeatedly at their own speed and were tested on details taken from the text. Subjects were first given a criterion test to determine whether each passage was learned. The criterion test consisted of six facts from the passage. Criterion performance was 100%. After reaching criterion each subject went on to the recognition phase of the experiment. Each subject was seated at a table on which the response box sat. Slides were projected one at a time with retrieval time and response recorded after each response. . . . (Author's abstract exceeds stipulated maximum length. Discontinued here with permission of author.) UMI

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